## What is claimed is:

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1 1. A hot-swap device applicable to the ATA (AT Attachment) interface,

2 comprising at least an IDE hard disk drive (HDD) controller for processing

IDE instructions transferred from the ATA interface, wherein at least a

program code is provided to the IDE hard disk drive controller to respond to

the ATA interface "a virtual storage device" in the case of lacking a real

storage device connected to the IDE HDD controller via the ATA interface, or

if the program code is executed to connect "a real storage device" to the IDE

HDD controller via the ATA interface, connection of the IDE HDD controller

with the ATA interface is disabled so that the real storage device will respond

to the ATA interface directly.

1 2. The hot-swap device according to claim 1, wherein the program code for output

of "a virtual storage device" to the ATA interface is run by the IDE hard disk

drive controller to effect output of a virtual identifier (ID) table and a virtual

partition table to the ATA interface.

1 3. A hot-swap device applicable to the ATA (AT Attachment) interface,

comprising an integrated drive electronics (IDE) hard disk device controller for

processing IDE instructions transferred from the ATA interface, wherein at least

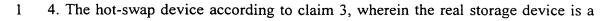
a program code is provided to the IDE hard disk drive controller for the same to

execute and respond to the ATA interface "a virtual storage device" in the case

of lacking a real storage device connected to the IDE hard disk drive controller,

or respond to the ATA interface "a real storage device" if the program code is

8 executed to connect a "real storage device" with the IDE hard disk drive.



- 2 compact-flash memory storage device.
- 1 5. The hot-swap device according to claim 3, wherein the program code for output
- 2 of "a virtual storage device" to the ATA interface is run by the IDE hard disk
- drive controller to effect output of a virtual identifier (ID) table and a virtual
- 4 partition table to the ATA interface.